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# MULTIMEDIA UNIVERSITY

## FINAL EXAMINATION

TRIMESTER 3, 2016/2017

### BAC3674 – ADVANCED MANAGEMENT ACCOUNTING (B01)

26<sup>th</sup> May 2017  
9.00 am – 12.00 pm  
(3 HOURS)

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#### INSTRUCTIONS TO STUDENT

1. This question paper consists of 5 pages (excluding the cover page, but including the Appendix).
2. Answer ALL FOUR (4) questions. All questions carry equal marks and the distribution of the marks for each question is given.
3. Please provide all your answers in the Answer Booklet provided.

**Question 1**

Scott (M) Bhd, manufactures two products, Regular and Deluxe, and applies overhead on the basis of direct labor hours. Anticipated overhead cost and direct labor time for the upcoming accounting period are RM1,600,000 and 25,000 hours, respectively. Information about the company's products are as follows.

*Regular—*

Estimated production volume: 3,000 units

Direct materials cost: RM28 per unit

Direct labour per unit: 3 hours at RM15 per hour

*Deluxe—*

Estimated production volume: 4,000 units

Direct materials cost: RM42 per unit

Direct labor per unit: 4 hours at RM15 per hour

Scott's overhead of RM1,600,000 can be identified with three major activities: order processing (RM250,000), machine processing (RM1,200,000), and product inspection (RM150,000). These activities are driven by number of orders processed, machine hours worked, and inspection hours, respectively. Data relevant to these activities follow.

	Orders <u>Processed</u>	Machine Hours <u>Worked</u>	Inspection <u>Hours</u>
Regular	320	16,000	4,000
Deluxe	180	24,000	6,000
Total	<u>500</u>	<u>40,000</u>	<u>10,000</u>

**Required:**

- Compute the pool rates that would be used for order processing, machine processing, and product inspection in an activity-based costing system. (3 marks)
- Assuming use of activity-based costing, compute the unit manufacturing costs of Regular and Deluxe if the expected manufacturing volume is attained. (11 marks)
- How much overhead would be applied to a unit of Regular and Deluxe if the company used traditional costing and applied overhead solely on the basis of direct labor hours? Which products would be under-costed and over-costed by this procedure? (5 marks)
- Activity-based costing (ABC) is said to result in improved costing accuracy when compared with traditional costing procedures. Briefly explain how this improved accuracy is attained. (6 marks)

[Total 25 marks]

Continued...

**Question 2**

Grupe Ltd. has a subsidiary located in Malaysia and another in Singapore. The Malaysian subsidiary produces Part 102 needed for the product made by the Singapore subsidiary. There is substantial excess capacity in the Malaysian subsidiary. The tax rate of the Malaysian subsidiary is 35% and Singapore subsidiary tax rate is 30%.

Part 102 sells externally for RM75 and the Malaysian subsidiary's manufacturing costs are:

Direct material	RM32
Direct labour	12
Variable overhead	6
Fixed overhead	19

**Required:**

- i) What would be the lowest acceptable transfer price for the Malaysian subsidiary? (2 marks)
- ii) What would be the highest acceptable transfer price for the Singapore subsidiary? (1 mark)
- iii) What would be the transfer price that would be the best for Grupe Ltd and why? (4 marks)

Division A of the Malaysian subsidiary transfers Part 503 to Division B of the same subsidiary. Division B requires 120,000 units of Part 503 which it can either buy the item internally or externally (cost = RM73 per unit). Division A has just completed its annual cost update as follows:

Direct materials	RM 25.00
Direct labour	18.00
Variable manufacturing overhead	6.00
Fixed manufacturing overhead	3.50
Variable selling expenses	4.00
Fixed selling and administrative expenses	<u>8.50</u>
 Total costs	RM 65.00
Desired return	<u>14.00</u>
Sales price	RM 79.00

Division A is operating at 60 percent of its 400,000 unit capacity.

**Required:**

- iv) What is the minimum transfer price Division A should charge for internal transfers? (2 marks)
- v) What is the maximum price Division B would be willing to pay? (1 mark)
- vi) Why should Division A reduce its price to Division B? (4 marks)

**Continued...**

Mr. Dessler, the Production V.P. of the Malaysian subsidiary is looking at the two divisions that report to him – Division A and Division B. These divisions are viewed as profit centers by the company. He has called in the head of Division A which provides Part 224, a part used by Division B because he has noticed that Division B is going to an external supplier for Part 224. Mr. Araz, the head of Division A, tells him that he has set the transfer price for Part 224 at RM38 per part even though the external price is RM33 per part. The standard unit-level cost is RM22. "I have set the RM38 price because I am operating with no excess capacity and do not want to have the internal transfer to Division B. I have some good external customers and do not want to lose them by selling internally. If I had excess capacity, I would willingly sell to Division B at a lower price." Mr. Dessler says that he has to think about this situation because something doesn't seem right to him. After Mr. Araz leaves the office, he calls you working in the controller's department for some help.

**Required:**

vii. Explain to Mr. Dessler the differences in transfer pricing when there is no excess capacity and when there is excess capacity and what Mr. Araz is doing wrong.

(11 marks)

[Total 25 marks]

**Question 3**

**Part A**

Wexford Bhd is considering the acquisition of a new production machine in the middle of the first year that will cost RM350,000. The machine is expected to have a four-year service life and will produce annual savings in cash operating costs of RM100,000. Wexford uses the optional straight-line method of depreciation and depreciates the asset over its four-year service life. The company is subject to a 30% income tax rate, has an after-tax hurdle rate of 12%, and rounds calculations to the nearest RM.

**Required:**

- i. Determine the annual after-tax cash flows that result from acquisition of the machine.  
(3 marks)
- ii. Calculate the machine's net present value. Is the machine an attractive investment?  
Why?  
(10 marks)
- iii. Depreciation is often described as a "tax shield." Explain how depreciation provides such a shield.  
(3 marks)

**PART B**

Traditionally, companies have employed a "push" manufacturing style. Studies in Activity Based Management and Quality Control have indicated that this approach is filled with many non-value-added activities, which increase overall costs and reduce profits. The "push" style is being replaced with a "pull" approach.

**Required:**

- i. Briefly describe the major differences between the push and pull approaches. What non-value added activities are eliminated in a pull manufacturing system? (3 marks)

Continued...

Manufacturers have found that the Just-in-Time (JIT) philosophy improves quality, lowers costs and improves profits. Those that have successfully implemented JIT have found that six components are necessary.

**Required:**

ii. Identify the six components necessary to the successful implementation of JIT and briefly comment on each. (6 marks)  
**[Total 25 marks]**

**Question 4**

Marx Berhad has the following data available for two of its subsidiaries for last year:

	Asian Subsidiary	European Subsidiary
Sales	RM460,000	RM900,000
Contribution margin	184,000	470,000
Operating income	92,000	90,000
Average operating assets	368,000	750,000
Weighted average cost of capital	14%	14%

The imputed interest for Marx Bhd is 24%, and the tax rate for Marx Bhd is 18%.

**Required:**

(i) Compute the following for each subsidiary

(a) Sales margin	(2 marks)
(b) Capital turnover	(2 marks)
(c) Return on Investment (ROI)	(2 marks)
(d) Residual income (RI)	(2 marks)
(e) Economic Value Added (EVA), assuming no current liabilities	(2 marks)

(ii) Briefly discuss which subsidiary appears most successful and why? (3 marks)

(iii) What are advantages and disadvantages of ROI and residual income as performance measures? (5 marks)

Mrs. Yap is the manager of the Children's Toy division of the Asian Subsidiary. Every year she just misses the cut-off established by the company for the awarding of bonuses. She is concerned in as much as she believes she is running her division effectively and her income has been increasing slowly but steadily over the years she has been with the company. She knows that the company uses ROI as the performance measure to evaluate divisions and begins to study the formula to see what she should do to improve the ROI for her subsidiary.

**Required:**

(iv) Briefly discuss several ways to improve ROI. (7 marks)  
**[Total 25 marks]**  
**End of page.**

Appendix

Periods	Present Value of \$1									
	4%	6%	8%	10%	12%	14%	16%	18%	20%	
1	.962	.943	.926	.909	.893	.877	.862	.847	.833	
2	.925	.890	.857	.826	.797	.769	.743	.718	.694	
3	.889	.840	.794	.751	.712	.675	.641	.609	.579	
4	.855	.792	.735	.683	.636	.592	.552	.516	.482	
5	.822	.747	.681	.621	.567	.519	.476	.437	.402	
6	.790	.705	.630	.564	.507	.456	.410	.370	.335	
7	.760	.665	.583	.513	.452	.400	.354	.314	.279	
8	.731	.627	.540	.467	.404	.351	.305	.266	.233	
9	.703	.592	.500	.424	.361	.308	.263	.225	.194	
10	.676	.558	.463	.386	.322	.270	.227	.191	.162	

Periods	Present Value of a Series of \$1 Cash Flows									
	4%	6%	8%	10%	12%	14%	16%	18%	20%	
1	0.962	0.943	0.926	0.909	0.893	0.877	0.862	0.847	0.833	
2	1.886	1.833	1.783	1.736	1.690	1.647	1.605	1.566	1.528	
3	2.775	2.673	2.577	2.487	2.402	2.322	2.246	2.174	2.106	
4	3.630	3.465	3.312	3.170	3.037	2.914	2.798	2.690	2.589	
5	4.452	4.212	3.993	3.791	3.605	3.433	3.274	3.127	2.991	
6	5.242	4.917	4.623	4.355	4.111	3.889	3.685	3.498	3.326	
7	6.002	5.582	5.206	4.868	4.564	4.288	4.039	3.812	3.605	
8	6.733	6.210	5.747	5.335	4.968	4.639	4.344	4.078	3.837	
9	7.435	6.802	6.247	5.759	5.328	4.946	4.607	4.303	4.031	
10	8.111	7.360	6.710	6.145	5.650	5.216	4.833	4.494	4.192	